

PROJECT NUMBER: 6505
PROJECT TITLE: Special Investigations/Methods Development
PROJECT LEADER: D. F. Ingraham
PERIOD COVERED: May, 1990

I. AMBROSIA

A. Objective: Provide analytical support for the development of compounds targeted as potential sidestream odorants

B. Results:

Methods were developed to determine trichloroacetic acid, dimethylformamide, vanillin, and di-*tert*-butyl dicarbonate in VANIL-3 for specification purposes. These methods were used to determine the levels of these compounds in samples produced by Aldrich. The purity of the VANIL-3 and the amount of vanillin present were also determined.

Analysis of VANIL-3 on cigarette paper showed about a 90% loss of the compound after storage of cigarettes containing VANIL-3 (on the paper) in the desert room for one week. Only a small amount of this loss could be attributed to its transfer to filler.

Sidestream and mainstream smoke samples obtained from cigarettes containing VANIL-3 on the paper were analyzed for vanillin and VANIL-3. Smoke samples from cigarettes containing Aromatek-245 were also analyzed to determine the amounts of Aromatek-245 and α -hexylcinnamic aldehyde. The results were reported to R. Comes.

C. Plans: Continue to support this program as needed.

D. References:

1. Yang, S. S., "Determination of the Cigarette Paper and the Smoke Products of CR-2910," memo to R. Comes, May 7, 1990.
2. Yang, S. S., "Determination of the Smoke Products of Aromatek-245," memo to R. Comes, May 17, 1990.

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II. RESPONSE TO ANALYTICAL REQUESTS

A. Objective: To provide analytical support to R&D and Operations personnel and projects.

B. Results:

Analyses and investigations by project personnel during the month of May included:

Several customer complaint samples were analyzed.

Quantitative and qualitative analyses of various packaging materials were performed for Rick Dunaway and Packaging Technical Services.

Several dirt samples from 20th Street were analyzed for volatile organic compounds. Two of the samples contained propionic acid, propylene glycol, acetic acid, and propionic acid esters of PG. In a third sample, only PG was observed.

The amounts of ethanol present in production samples of MGC (Lee Labs) were determined, in addition to the concentration of MGC in the solution.

The amount of ethylvanillin glucoside on the paper of Horizon (RJR) cigarettes was determined.

The amounts of various phenolic compounds were determined in smoke samples from Caster cigarettes.

The amount of propylene carbonate (PC) in cigarette rods containing target levels of 2% and 4% was determined. Results showed the amounts of PC to be significantly lower than the targets. The individual cigarette results were forwarded to M. Parrish to determine the uniformity of application of the PC.

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